

REC d PCT/PTO 15 OCT 2004

10/511588/1,508

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
6 November 2003 (06.11.2003)

PCT

(10) International Publication Number
WO 03/091288 A1

(51) International Patent Classification⁷: **C08F 2/50**,
G03F 7/029, C09D 4/00

[US/US]; 12 Park Place, Apt. 293, Hattiesburg, MS 39402
(US). **BRADY, Charles, A.** [US/US]; 5122 Briar Creek
Trail, Anderson, SC 29625 (US).

(21) International Application Number: PCT/US03/12955

(22) International Filing Date: 24 April 2003 (24.04.2003)

(74) Agents: **PIPPENGER, Philip, M.** et al.; Albemarle
Corporation, Law Department, 451 Florida Street, Baton
Rouge, LA 70801-1765 (US).

(25) Filing Language: English

(81) Designated States (*national*): CA, CN, JP, KR, US.

(26) Publication Language: English

(30) Priority Data: **26 Oct 02**
60/375,639 26 April 2002 (26.04.2002) US

(84) Designated States (*regional*): European patent (AT, BE,
BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU,
IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR).

(71) Applicant (*for all designated States except US*): **ALBE-
MARLE CORPORATION** [US/US]; 451 Florida Street,
Baton Rouge, LA 70801-1765 (US).

Published:

- with international search report
- before the expiration of the time limit for amending the
claims and to be republished in the event of receipt of
amendments

(72) Inventors; and

(75) Inventors/Applicants (*for US only*): **SANTOBIANCO,**
John, G. [US/US]; 4957 East Belle Fontaine Beach Road,
Ocean Springs, MS 39564 (US). **NGUYEN, Chau, K.**

*For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.*

(54) Title: A NEW CLASS OF AMINE COINITIATORS IN PHOTOINITIATED POLYMERIZATIONS

(57) Abstract: A new class of amines is incorporated into photopolymerizable systems employing type I or type II photoinitiators. These amines are trialkylamines having a total of 10 to about 36 carbon atoms in the molecule and wherein at least one alkyl group has a chain length of at least 8 carbon atoms. Preferably, one or two of the alkyl groups are methyl or ethyl or one of each. Short chain amines as defined herein provide synergistic results when used with such trialkylamines.



WO 03/091288 A1

INTERNATIONAL SEARCH REPORT

International Application No

PCT/EP 03/12955

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C08F2/50 G03F7/029 C09D4/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C08F G03F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DE 33 31 157 A (BASF) 14 March 1985 (1985-03-14) claim 1	1-26
X	EP 0 197 616 A (DSM RESINS BV.) 15 October 1986 (1986-10-15) claim 1	1-26



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

* Special categories of cited documents:

A document defining the general state of the art which is not considered to be of particular relevance

E earlier document but published on or after the international filing date

L document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

O document referring to an oral disclosure, use, exhibition or other means

P document published prior to the international filing date but later than the priority date claimed

T later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

X document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

Y document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

Z document member of the same patent family

Date of the actual completion of the international search

19 August 2003

Date of mailing of the international search report

27/08/2003

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Cauwenberg, C

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 83/12955

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
DE 3331157	A	14-03-1985	DE 3331157 A1	14-03-1985
			CA 1241488 A1	30-08-1988
			DE 3463272 D1	27-05-1987
			EP 0141110 A2	15-05-1985
			JP 60084305 A	13-05-1985
			US 4666952 A	19-05-1987
<hr/>				
EP 197616	A	15-10-1986	NL 8501022 A	03-11-1986
			DE 3686344 D1	17-09-1992
			DE 3686344 T2	25-03-1993
			EP 0197616 A1	15-10-1986
			ES 8802576 A1	01-11-1988
			PT 82354 A ,B	01-05-1986
<hr/>				